

## Federal Communications Commission

## § 73.208

[48 FR 29504, June 27, 1983, as amended at 49 FR 10264, Mar. 20, 1984; 49 FR 19670, May 9, 1984; 49 FR 50047, Dec. 26, 1984; 51 FR 26250, July 22, 1986; 54 FR 14963, Apr. 14, 1989; 54 FR 16366, Apr. 24, 1989; 54 FR 19374, May 5, 1989; 54 FR 35338, Aug. 25, 1989; 56 FR 27426, June 14, 1991; 56 FR 57293, Nov. 8, 1991; 62 FR 50256, Sept. 25, 1997; 65 FR 79776, Dec. 20, 2000]

### § 73.208 Reference points and distance computations.

(a)(1) The following reference points must be used to determine distance separation requirements when petitions to amend the Table of Allotments (§ 73.202(b)) are considered:

(i) First, transmitter sites if authorized, or if proposed in applications with cut-off protection pursuant to paragraph (a)(3) of this section;

(ii) Second, reference coordinates designated by the FCC;

(iii) Third, coordinates listed in the United States Department of Interior publication entitled Index to the National Atlas of the United States of America; or

(iv) Last, coordinates of the main post office.

(The community's reference points for which the petition is submitted will normally be the coordinates listed in the above publication.)

(2) When the distance between communities is calculated using community reference points and it does not meet the minimum separation requirements of § 73.207, the channel may still be allotted if a transmitter site is available that would meet the minimum separation requirements and still permit the proposed station to meet the minimum field strength requirements of § 73.315. A showing indicating the availability of a suitable site should be submitted with the petition. In cases where a station is not authorized in a community or communities and the proposed channel cannot meet the separation requirement a showing should also be made indicating adequate distance between suitable transmitter sites for all communities.

(3) Petitions to amend the Table of Allotments that do not meet minimum distance separation requirements to transmitter sites specified in pending applications will not be considered unless they are filed no later than:

(i) The last day of a filing window if the application is for a new FM facility or a major change in the non-reserved band and is filed during a filing window established under section 73.3564(d)(3); or

(ii) The cut-off date established in a Commission Public Notice under § 73.3564(d) and 73.3573(e) if the application is for a new FM facility or a major change in the reserved band; or

(iii) The date of receipt of all other types of FM applications. If an application is amended so as to create a conflict with a petition for rule making filed prior to the date the amendment is filed, the amended application will be treated as if filed on the date of the amendment for purposes of this paragraph (a)(3).

NOTE: If the filing of a conflicting FM application renders an otherwise timely filed counterproposal unacceptable, the counterproposal may be considered in the rule-making proceeding if it is amended to protect the site of the previously filed FM application within 15 days after being placed on the Public Notice routinely issued by the staff concerning the filing of counterproposals. No proposals involving communities not already included in the proceeding can be introduced during the reply comment period as a method of resolving conflicts. The counterproponent is required to make a showing that, at the time it filed the counterproposal, it did not know, and could not have known by exercising due diligence, of the pendency of the conflicting FM application.

(b) Station separations in licensing proceedings shall be determined by the distance between the coordinates of the proposed transmitter site in one community and

(1) The coordinates of an authorized transmitter site for the pertinent channel in the other community; or, where such transmitter site is not available for use as a reference point,

(2) Reference coordinates designated by the FCC; or, if none are designated,

(3) The coordinates of the other community as listed in the publication listed in paragraph (a) of this section; or, if not contained therein,

(4) The coordinates of the main post office of such other community.

(5) In addition, where there are pending applications in other communities which, if granted, would have to be

considered in determining station separations, the coordinates of the transmitter sites proposed in such applications must be used to determine whether the requirements with respect to minimum separations between the proposed stations in the respective cities have been met.

(c) The method given in this paragraph shall be used to compute the distance between two reference points, except that, for computation of distance involving stations in Canada and Mexico, the method for distance computation specified in the applicable international agreement shall be used instead. The method set forth in this paragraph is valid only for distances not exceeding 475 km (295 miles).

(1) Convert the latitudes and longitudes of each reference point from degree-minute-second format to degree-decimal format by dividing minutes by 60 and seconds by 3600, then adding the results to degrees.

(2) Calculate the middle latitude between the two reference points by averaging the two latitudes as follows:

$$ML = (LAT1_{dd} + LAT2_{dd}) / 2$$

(3) Calculate the number of kilometers per degree latitude difference for the middle latitude calculated in paragraph (c)(2) as follows:

$$KPD_{lat} = 111.13209 - 0.56605 \cos(2ML) + 0.00120 \cos(4ML)$$

(4) Calculate the number of kilometers per degree longitude difference for the middle latitude calculated in paragraph (c)(2) as follows:

$$KPD_{lon} = 111.41513 \cos(ML) - 0.09455 \cos(3ML) + 0.00012 \cos(5ML)$$

(5) Calculate the North-South distance in kilometers as follows:

$$NS = KPD_{lat}(LAT1_{dd} - LAT2_{dd})$$

(6) Calculate the East-West distance in kilometers as follows:

$$EW = KPD_{lon}(LON1_{dd} - LON2_{dd})$$

(7) Calculate the distance between the two reference points by taking the square root of the sum of the squares of the East-West and North-South distances as follows:

$$DIST = (NS^2 + EW^2)^{0.5}$$

(8) Round the distance to the nearest kilometer.

(9) Terms used in this section are defined as follows:

(i)  $LAT1_{dd}$  and  $LON1_{dd}$ =the coordinates of the first reference point in degree-decimal format.

(ii)  $LAT2_{dd}$  and  $LON2_{dd}$ =the coordinates of the second reference point in degree-decimal format.

(iii)  $ML$ =the middle latitude in degree-decimal format.

(iv)  $KPD_{lat}$ =the number of kilometers per degree of latitude at a given middle latitude.

(v)  $KPD_{lon}$ =the number of kilometers per degree of longitude at a given middle latitude.

(vi)  $NS$ =the North-South distance in kilometers.

(vii)  $EW$ =the East-West distance in kilometers.

(viii)  $DIST$ =the distance between the two reference points, in kilometers.

[28 FR 13623, Dec. 14, 1963, as amended at 29 FR 14116, Oct. 14, 1964; 48 FR 29505, June 27, 1983; 52 FR 37788, Oct. 9, 1987; 52 FR 39920, Oct. 26, 1987; 54 FR 9806, Mar. 8, 1989; 57 FR 36020, Aug. 12, 1992; 58 FR 38537, July 19, 1993]

#### § 73.209 Protection from interference.

(a) Permittees and licensees of FM broadcast stations are not protected from any interference which may be caused by the grant of a new station, or of authority to modify the facilities of an existing station, in accordance with the provisions of this subpart. However, they are protected from interference caused by Class D (secondary) noncommercial educational FM stations. See § 73.509.

(b) The nature and extent of the protection from interference afforded FM broadcast stations operating on Channels 221–300 is limited to that which results when assignments are made in accordance with the rules in this subpart.

(c) Permittees and licensees of FM stations are not protected from interference which may be caused by the grant of a new LPFM station or of authority to modify an existing LPFM station, except as provided in subpart G of this part.

[43 FR 39715, Sept. 6, 1978 and 48 FR 29505, June 27, 1983; 54 FR 9802, Mar. 8, 1989; 65 FR 7640, Feb. 15, 2000; 65 FR 67299, Nov. 9, 2000]